

disposed on an interior circumferential wall surface of the blind recess, in order to increase the surface area for heat dissipation. Further, the blind recess and the spaced-apart ribs or fins are preferably tapered to enable the pole piece to be made as a forging.

Specifically, independent claim 1 requires a pole piece for a loud speaker assembly comprise a cylindrical body having an end face; the end face having a blind recess with an interior circumferential wall; and the circumferential wall having inwardly directed heat-dissipating ribs.

Further, independent claim 22 requires a loud speaker assembly to comprise, *inter alia*, a pole piece having an end face communicating with ambient atmosphere; the pole piece at least partially disposed within a voice coil; and the end face having a blind recess with a circumferential wall having inwardly directed heat-dissipating ribs.

Further, independent claim 26 requires, *inter alia*, a pole piece comprising a cylindrical body having an end face communicating with ambient atmosphere; the cylindrical body at least partially disposed within a voice coil; and the end face having a blind recess with a circumferential wall having inwardly directed heat-dissipating ribs.

Necessarily, all of the independent claims require a uniquely constructed pole piece, with the cylindrical body, end face, blind recess, circumferential wall and inwardly directed heat-dissipating ribs all comprising elements of the pole piece. Further, the end face, blind recess, circumferential wall and inwardly

directed heat-dissipating ribs have specific structural relationships to one another.

Applicants do not understand the Ssutu '613 reference to disclose any of the foregoing features of the invention as set forth in independent claims 1, 22 and 26.

The Examiner alleges that the Ssutu '613 reference discloses a pole piece (24) comprising a cylindrical body (92) having an end face with a blind recess with an interior circumferential wall, the circumferential wall having inwardly directed heat-dissipating ribs. The Examiner cites Figures 2 and 6, and Column 6, Lines 22-44 of the Ssutu '613 reference as allegedly supporting this disclosure.

This is incorrect in all respects.

The Ssutu '613 cylindrical body (92, and also 52 and 72) is expressly described as being a head portion of an air flow control device which is provided separately from, and disposed exterior to, the Ssutu pole piece. In each and every instance, the air flow control devices are not part of the pole piece, but are separately provided and subsequently inserted within a throughbore portion of a separate pole piece (30).

Specifically, and as expressly recited in the Ssutu reference, "[W]ith reference to FIGS. 1 and 4, one air flow control device 50 comprises a head portion 52 in the form of a circular plate which is connected to a body portion 54. The body portion 54 includes a central bore 56 which is intersected by a number of transverse bores 58 formed in the body portion 54 at a location proximate to

head portion 52. The body portion 54 of device 50 is inserted within the throughbore 31 of pole piece 30 so that the head portion 52 and the transverse bores 58 are located externally of the pole piece 30". (Column 5, Lines 37-45).

Further, "The embodiments of the air flow control devices depicted in FIGS. 5 and 6, function in a similar manner to device 50". (Column 5, Lines 60, 61). "The body portion 74 consists of a number of ribs or vanes 78 each having an inner edge 80 and an outer edge 82. The inner edges 80 of the vanes 78 are interconnected, and they extend radially outwardly from one another forming channels 83 between adjacent vanes 78. See FIG. 3. The body portion 74 of device 70 is inserted within the throughbore 31 of pole piece 30 so that the outer edge of each vane 78 engages the pole piece 30 and the head portion 72 is located externally of the throughbore 31". (Column 5, Line 66-Column 6, Line 9).

Further, "The air flow control device 90 depicted in FIGS. 2 and 6 is similar to device 70 ... The body portion device 94 of the device 90 is inserted into the throughbore 31 of the pole piece 30 so that the head portion 92 and part of the length of the vanes 96 are located externally of the pole piece 30, and the outer edge 99 of each vane 96 contacts the internal wall of the pole piece 30". (Column 6, Lines 22-34).

From the foregoing it is quite clear that the Ssutu '613 reference does not disclose a pole piece with a cylindrical body having an end face, the end face including a blind recess with an interior circumferential wall. Indeed, no blind recesses is found anywhere in the Ssutu reference, much less a blind recess formed in the end face of a cylindrical body comprising part of a pole piece.

Neither does the Ssutu '613 reference disclose the blind recess having a circumferential wall with inwardly directed heat-dissipating ribs.

In giving the obviousness rejection, the Examiner has boot strapped both the elements themselves and the motivation to combine the elements with the claimed structure from Applicant's specification, and the specification alone. The Examiner has provided absolutely no documentary support for the contention that the Ssutu reference contains the required elements, much less the contention that such formation is "well known".

The Examiner acknowledges that the Ssutu '613 reference does not expressly disclose the cylindrical body as part of the pole piece. However, this is precisely what independent claims 1, 22 and 26 require; "a pole piece comprising". Further, it is immaterial whether one having skill in the art would have integrally formed the Ssutu cylindrical body with the Ssutu pole piece, since neither the Ssutu pole piece nor the Ssutu cylindrical body is constructed with the features of the present invention. There is no blind recess in an end face. There are no inwardly directed heat-dissipating ribs (Ssutu expressly recites "outwardly extending", the exact opposite of the claimed element). There are no heat-dissipating ribs of any kind located on an interior circumferential wall of a blind recess.

According to MPEP Section 2143, in order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference, or to

combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicant's disclosure." *In re Vaeck*, 947 Fed. 2d 488 (Fed. Cir. 1991).

Dependent claims 2-6, 16 and 17 discuss the shape, orientation and tapering of the heat-dissipating ribs of independent claim 1. Since the Ssutu '613 reference does not disclose or suggest an end face having a blind recess with an interior circumferential wall, the circumferential wall having inwardly directed heat-dissipating ribs, it is difficult to understand how various claim limitations of dependent claims 2-6, 16 and 17 read on the Ssutu '613 reference. In particular, Applicant finds it extremely difficult to understand how the width of a Ssutu fin or rib can possibly be substantially the same as the space between the ribs or fins, as required by dependent claims 5 and 6. Ssutu's outwardly-directed ribs or fins are depicted as being thin, i.e., having a small width (see Ssutu Figs. 5, 6, and 8); the thin fins are shown as disposed at 120 degree intervals, i.e., the space between the Ssutu outwardly-directed fins is large.

Ssutu cannot be seen as disclosing a rib width to rib space ratio of 1:1 as required by the claims.

In view of the foregoing, Applicant suggests that independent claims 1, 22 and 26, as well as the claims depending therefrom are in condition for allowance,

and solicits reconsideration and withdrawal of the rejection of claims 1-6, 16, 17, 22 and 26 under 35 USC § 103(a) in view of the Ssutu '613 reference.

Claims 7-15 and 18-20 were rejected under 35 USC § 103(a) for obviousness over Ssutu in the view of U. S. Patent No. 4,933,975 to Button. In giving the rejection, the Examiner notes that Ssutu does not expressly disclose structural variations of tapered ribs with regard to the inwardly directed heat-dissipating ribs. Button is presumed to remedy this deficiency.

Applicant respectfully traverses this rejection.

As noted above, the Ssutu '613 reference does not disclose or suggest inwardly directed heat-dissipating ribs, of any kind, much less inwardly directed heat-dissipating ribs formed in an interior circumferential wall of a blind recess formed on an end face of a cylindrical body that comprises a loud speaker pole piece.

Button does nothing to remedy this deficiency in the Ssutu reference.

Since the Ssutu air flow control devices are not part of the Ssutu pole piece, do not include an end face with a blind recess, do not include a blind recess with an interior circumferential wall, and do not include a circumferential wall having inwardly directed heat-dissipating ribs, Buttons tapered heat-dissipating ribs have no bearing on the Ssutu disclosure. Additionally, it is difficult to understand how Sesutu's radially out-wardly extending fins could be tapered, when the body portion of the Ssutu air flow control device is expressly recited as designed to be inserted into a throughbore of the pole piece.

In view of the foregoing, Applicant further suggests that dependent claims 7-15 and 18-20 are in condition for allowance and request reconsideration and withdrawal of the rejection of these claims under 35 USC § 103(a) over Ssutu in view of Button.

Claims 21 and 23-25 were rejected under 35 USC § 103(a) for obviousness over Ssutu in view of the Button '975 reference.

Applicant respectively traverses this rejection.

With regard to independent claim 21, a loud speaker pole piece comprises a forged cylindrical body having an end face, the end face having a blind recess, the blind recess having a tapered circumferential wall decreasing in diameter away from the end face and the circumferential wall having inwardly directed heat-dissipating ribs tapered in a shape corresponding to a taper of the circumferential wall.

As discussed above, the Ssutu '613 reference is not understood to disclose or suggest the foregoing. The cylindrical body, end face, blind recess, circumferential wall, and inwardly directed heat-dissipating ribs are all part of a loud speaker pole piece, as expressly recited in the claim. The Ssutu pole piece does not exhibit any of these characteristics.

The Ssutu '613 reference discloses an air flow control device. The air flow control device does not have a blind recess. The nonexistent blind recess does not have a tapered circumferential wall. The nonexistent tapered circumferential wall does not have inwardly directed heat-dissipating ribs.

Button does nothing to remedy these deficiencies in Ssutu. Button does not disclose or suggest a blind recess having a tapered circumferential wall as required by independent claim 21. Button does not disclose or suggest the circumferential wall having inwardly directed heat-dissipating ribs tapered in a shape corresponding to a taper circumferential wall, as required by independent claim 21.

With regard to independent claim 25, and as discussed above, the Ssutu '613 reference does not disclose or suggest a forged pole piece having an end face communicating with ambient atmosphere, at least partially disposed within a voice coil, the end face having a blind recess with a tapered circumferential wall decreasing in diameter away from said end face, the circumferential wall having inwardly heat-dissipating ribs tapered in a shape corresponding to a taper of the circumferential wall and the circumferential wall having a wall span disposed substantially within the travel path of a moving coil.

Ssutu does not disclose or suggest a forged pole piece having an end face; Ssutu does not disclose or suggest an end face having a blind recess. Ssutu does not disclose or suggest the blind recess having a tapered circumferential wall. Ssutu does not disclose or suggest the circumferential wall having inwardly directed heat-dissipating ribs.

Further, and with respect to dependent claim 24, simple inspection of Ssutu's FIGS. 1, 2 and 3 clearly shows that the purported Ssutu circumferential wall (presumably the exterior wall of head portions 52, 72 and 92) are disposed substantially outside the Ssutu voice coil 36, in contrast to the requirement of

claim 24 in which the wall span of the circumferential wall is disposed substantially within the travel path of the voice coil.

In view of the foregoing, Applicant's believe that claims 21 and 23-25 are in condition for allowance, and request reconsideration and withdrawal of the rejection of these claims under 35 USC § 103(a) for obviousness over Ssutu in view of Button.

In summary, Applicant submits that the application is in condition for allowance. Notification of the same in early passage to issue is requested.

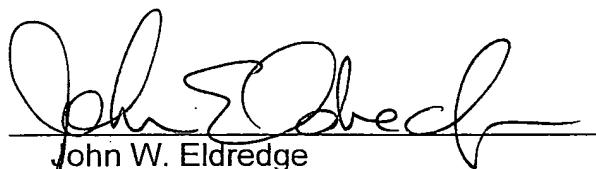
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